

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-7</b>						R-1 ITEM NOMENCLATURE 0207163N AMRAAM					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	53.364		11.290	10.700	8.124	9.527	8.156				101.161
E0981 AMRAAM	53.364		11.290	10.700	8.124	9.527	8.156				101.161
Quantity of RDT&E Articles	Not Applicable										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, simulation capability development, aircraft missile integration tasks, pre-planned product improvement (P3I) efforts, and procurement of hardware to support Navy test and evaluation tasks.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>											

R-1 SHOPPING LIST - Item No. 198

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 1 of 6)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
								February 2002			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-7	0207163N AMRAAM					E0981 AMRAAM					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	53.364		11.290	10.700	8.124	9.527	8.156				101.161
RDT&E Articles Qty	Not Applicable										

### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, simulation capability development aircraft missile integration tasks, pre-planned product improvement (P3I) efforts, and procurement of hardware to support Navy test and evaluation tasks.

### (U) PROGRAM ACCOMPLISHMENTS AND PLANS:

#### 1. FY2001 Accomplishments:

- (U) (\$9.801) Continued system engineering activities in AMRAAM P3I Phase 3 EMD program (incorporating Air Force funding of \$48.522) which include conducting proof of design (POD) testing of Phase 3 components, developing, coding, and testing P3I Phase 3 software, and integrating hardware and software into missile test articles for use in ground testing.
- (U) (\$1.489) Continued engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.

#### 2. FY2002 Plans:

- (U) (\$8.421) Continue system engineering activities in AMRAAM P3I Phase 3 EMD program (incorporating Air Force funding of \$53.531) which include fabrication and integration of proof of manufacturing (POM) hardware, and unit all-up-round missile ground qualification testing. Captive carriage flight-testing will also begin.
- (U) (\$1.670) Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.
- (U) (\$.285) Continue aircraft integration activities and test and evaluation for Navy unique requirements.
- (U) (\$.324) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68.

#### 3. FY 2003 Plans:

- (U) (\$5.656) Continue systems engineering/aircraft integration activities in AMRAAM P3I Phase 3 EMD program (incorporating additional Air Force funding of \$36.150) conducting proof of manufacturing (POM) testing of Phase 3 components with emphasis on Navy unique compatibility requirements and aircraft integration/compatibility requirements. Development flight testing begins. Complete contract EMD phase.
- (U) (\$1.918) Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.
- (U) (\$.550) Continue aircraft integration activities and test and evaluation for Navy unique requirements.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM	PROJECT NUMBER AND NAME E0981 AMRAAM																																																										
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY2001</u></th> <th style="text-align: right;"><u>FY2002</u></th> <th style="text-align: right;"><u>FY2003</u></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: right;">12.011</td> <td style="text-align: right;">10.795</td> <td></td> </tr> <tr> <td>(U) Adjustments from the President's Budget:</td> <td style="text-align: right;">(0.721)</td> <td style="text-align: right;">(0.095)</td> <td></td> </tr> <tr> <td>(U) FY 2003 President's Budget Submit:</td> <td style="text-align: right;">11.290</td> <td style="text-align: right;">10.700</td> <td style="text-align: right;">8.124</td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2001 decrease of \$.721 million reflects a reduction of \$.372 million for Small Business Innovative Research assessment and a \$.349 million decrease for reprioritization of requirements within the Navy.  The FY2002 decrease of \$.095 million reflects an undistributed congressional reduction.</p> <p>(U) Schedule: Not applicable.</p> <p>(U) Technical: Not applicable.</p> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. &amp; Name</u></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>To Complete</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>WPN/P1#6 QTY</td> <td style="text-align: right;">63</td> <td style="text-align: right;">57</td> <td style="text-align: right;">100</td> <td style="text-align: right;">55</td> <td style="text-align: right;">48</td> <td style="text-align: right;">48</td> <td style="text-align: right;">48</td> <td style="text-align: right;">526</td> <td></td> </tr> <tr> <td>\$</td> <td style="text-align: right;">37.592</td> <td style="text-align: right;">36.717</td> <td style="text-align: right;">50.937</td> <td style="text-align: right;">35.891</td> <td style="text-align: right;">34.338</td> <td style="text-align: right;">35.300</td> <td style="text-align: right;">36.169</td> <td style="text-align: right;">220.936</td> <td style="text-align: right;">1,545.372</td> </tr> <tr> <td colspan="10"> <u>Related RDT&amp;E</u>  (U) PE 0207130F F-15  (U) PE 0204126N F/A-18 Squadrons  (U) PE 0207163F AMRAAM P3I  (U) PE 0207133F F-16  (U) PE 0604239F F-22  (U) PE 0207134F F-15E </td> </tr> </tbody> </table>						<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:	12.011	10.795		(U) Adjustments from the President's Budget:	(0.721)	(0.095)		(U) FY 2003 President's Budget Submit:	11.290	10.700	8.124	<u>Line Item No. &amp; Name</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Complete</u>	<u>Total Cost</u>	WPN/P1#6 QTY	63	57	100	55	48	48	48	526		\$	37.592	36.717	50.937	35.891	34.338	35.300	36.169	220.936	1,545.372	<u>Related RDT&amp;E</u> (U) PE 0207130F F-15 (U) PE 0204126N F/A-18 Squadrons (U) PE 0207163F AMRAAM P3I (U) PE 0207133F F-16 (U) PE 0604239F F-22 (U) PE 0207134F F-15E									
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<b>RDT&amp;E, N / BA-7</b>	0207163N AMRAAM	E0981 AMRAAM	

(U) D. ACQUISITION STRATEGY: With the December 1997 merger of Raytheon and Hughes into the Raytheon Systems Company, the government implemented a new acquisition strategy labeled AMRAAM Vision 2000. The Vision 2000 strategy capitalizes on a multi-year hardware pricing agreement between Raytheon and the government under the auspices of the Department of Justice which supported the Raytheon/Hughes merger and a shift in government business practices toward a more "commercial" business arrangement. The lot 12 procurement contract award includes an overarching price control strategy and a transfer of Total System Performance Responsibility (TSPR) to the prime contractor, Raytheon Defense Systems Segment in Tucson, Arizona. The purchase includes missiles, warranties, spares, missile performance tracking, and reliability tests. Raytheon assumes responsibility for all specifications below missile performance. Also included in the Lot 12 contract are pre-priced options for Lots 13 thru 15 (FY1999 thru FY2001).

(U) E. SCHEDULE PROFILE:

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones				
(U) Engineering Milestones	4Q P3I-3 CDR			Continuing Program
(U) T&E Milestones		2Q Begin P3I FLT TEST		Continuing Program
(U) Contract Milestones			4Q FY2003 Complete P3I Phase III EMD Contract	Continuing Program

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**Exhibit R-3, Project Cost Analysis**  
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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2002</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>				PROGRAM ELEMENT 0207163N AMRAAM			PROJECT NUMBER AND NAME E0981 AMRAAM					
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPAF	AAC Eglin AFB FL	19.526	7.536	11/00	6.292	11/01	4.808	11/02	11.061	49.223	49.223
Primary Hardware Development	WX	NAWC-AD Patuxent River MD				0.020	11/01	0.021	11/02	0.043	0.084	
Primary Hardware Development	WX	NAWC-WD China Lake CA		0.330	11/00	0.073	11/01	0.072	11/02	0.147	0.622	
Primary Hardware Development	WX	NSWC Dahlgren VA				0.020	11/01	0.021	11/02	0.043	0.084	
Award Fees	SS/CPAF	AAC Eglin AFB FL	2.089	1.339	11/00	1.111	11/01	0.848	11/02	1.952	7.339	7.339
SBIR Assessment						0.324					0.324	
Prior Years Development			21.653								21.653	
Subtotal Product Development			43.268	9.205		7.840		5.770		13.246	79.329	
Remarks: Prior year award fees were \$2.089 and are estimated to be approximately 15% of contract value for future years.												
Development Support	SS/FFP	JHU/APL Laurel MD		0.435	01/01	0.374	01/02	0.378	01/03	0.774	1.961	1.961
Development Support	RX	NSMA VA		1.330	12/00	1.693	12/01	0.875	12/02	1.826	5.724	
Development Support	WX	NAWC-WD China Lake CA		0.050	10/00	0.043	10/01	0.126	10/02	0.258	0.477	
Development Support	WX	NAWC-AD Patuxent River MD		0.145	04/01						0.145	
Prior Years Support			6.467								6.467	
Subtotal Support			6.467	1.960		2.110		1.379		2.858	14.774	
Remarks:												

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**Exhibit R-3, Project Cost Analysis**  
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>			PROGRAM ELEMENT 0207163N AMRAAM			PROJECT NUMBER AND NAME E0981 AMRAAM						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC WD China Lake CA				0.285	10/01	0.550	11/02	0.700	1.535	
Prior Years Test & Evaluation			0.956								0.956	
Subtotal T&E			0.956			0.285		0.550		0.700	2.491	
Remarks:												
Program Management Support	WX	NAWC AD Patuxent River MD				0.315	10/01	0.171	10/02	0.357	0.843	
Travel	MIPR	PMA-259 Eglin AFB FL		0.125	10/00	0.150	10/01	0.254	10/02	0.522	1.051	
Prior Years Management Support			2.673								2.673	
Subtotal Management			2.673	0.125		0.465		0.425		0.879	4.567	
Remarks:												
Total Cost			53.364	11.290		10.700		8.124		17.683	101.161	
Remarks:												

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